

## ABSTRACT

A clogged filter detection system has an optical transmitter (32) aligned to pass light through an air filter (14) of an HVAC air flow plenum, a receiver (34) including a sensor and positioned to receive the transmitted light (48) directly or from a reflector (42), a processing assembly (35) receiving signals from the sensor and communicating a visual (104) or audible (106) indication when an accumulated level of obscuration exceeds a predetermined level and a component support structure. The support structure uses a "U" or "L" shaped bracket (60,63) attached to peripheral structure of a filter receptacle frame (12) and one or more side plates (24,26) of the bracket are connected to an arm (74,76) on which components are carried. The transmitter (32) and receiver (34) may be located on opposite sides of the filter (14) or on the same side, with a retroreflector (46) on the other side. The processing assembly includes a microprocessor (94) and related devices. Measures are also provided for counteracting the presence of fluffy material near the filter, for sensitivity control of sensors and for an aural signal device activated at a predetermined time after a visual indication.